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**Quarterly Report – Public Page**

For Period Ending: March 31, 2008

Contract Number: DTPH56-07-T-000006

Prepared for: United States Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Office of Pipeline Safety

Project Title: "Validation of Assessment Methods for Production Scale Girth Welding of High Strength Pipelines with Multiple Pipe Sources, #275"

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## Project Summary

This project addresses gaps in the understanding of girth welding of X100 grade high strength steel pipelines. The objectives of the project are:

1. To test a large set of girth welds produced under realistic conditions by a state of the art high productivity GMAW system;
2. To demonstrate the effect of material variability between pipes, between heats and between pipe manufacturers; and
3. To validate current and proposed new weld defect assessment methods against the performance of a large set of welds made under field production conditions.

The project will test girth welds made during the construction of the BP X100 Operational Trial to determine their properties and defect tolerance. The activities will include: a) Review of construction records and selection of welds for examination; b) Test program design; c) Weld testing and examination; d) Evaluation of defect tolerance of welds using fitness for purpose assessment criteria; and e) Reporting and dissemination of results.

## Technical Status

Pressure cycling of the Operational Trial has continued satisfactorily. As of March 25, 2009, a total of 14,850 pressure cycles have been accumulated.

Completion of the Operational Trial is not expected until the end of April, 2009. The delay on this task is not expected to affect the overall schedule of the project.

A technical report was issued during the last quarter to the project team identifying candidate girth welds for mechanical testing. Work has been undertaken to plan out the test program and confirm costs for the more specialized tests. The test plan, which will be confirmed on completion of the X100 Operational Trial following additional NDT of the girth welds will comprise testing of up to 10 girth welds. Each girth weld will comprise the following: curved wide plate tests, standard fracture mechanics tests, Charpy impact tests, tensile tests and macro-sections.

## Plans for Future Activity

Continue pressure cycling of X100 Operational Trial (estimated completion towards end April, 2009) and other activity as per project plan.

Schedule NDT activity for completion of the X100 Operational Trial (May 2009) to enable test matrix and schedule to be confirmed and testing to commence.